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INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 7 : C12Q 1/68 | A1

(11) International Publication Number: WO 00/36142

(43) International Publication Date: 22 June 2000 (22.06.00)

(21) International Application Number: PCT/CA99/01177

(22) International Filing Date: 10 December 1999 (10.12.99)

(30) Priority Data:
60/111,794 11 December 1998 (11.12.98) US

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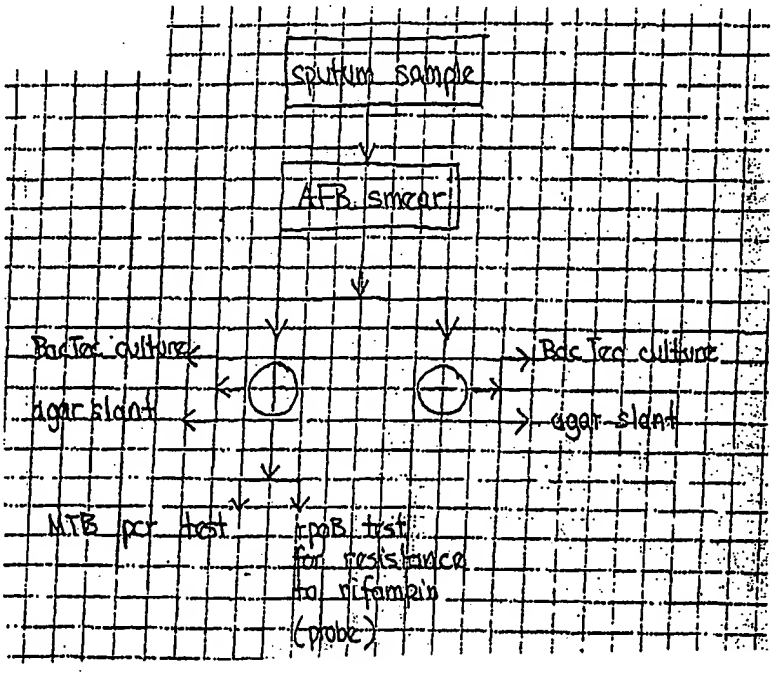
(81) Designated States: AU, CA, JP, US, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).

Published
With international search report.
Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

(54) Title: METHOD AND KIT FOR THE CHARACTERIZATION OF ANTIBIOTIC-RESISTANCE MUTATIONS IN *MYCOBACTERIUM* TUBERCULOSIS

(57) Abstract

Amplification and cycle sequencing primer sets have been developed for the detection and analysis of antibiotic resistance–associated mutations in defined regions of the rpoB (rifampin), katG (isoniazid), oxyR–ahpC PR (isoniazid), mabA (isoniazid), rpsL/s12 (streptomycin), 16S/rrs (streptomycin), embB (ethambutol), pncA (pyrazinamide), gyrA (ciprofloxacin) and 23S (azithromycin) genes of *Mycobacterium tuberculosis*. These primers can be used in a method for detection and characterization of *Mycobacterium tuberculosis* present in a sample. The method includes the steps of obtaining a sputum sample suspected of containing M. tuberculosis, performing a first sequencing procedure, with or without prior amplification, on the sample to detect the presence of *M. tuberculosis*, and if present to evaluate the rpoB, katG, rpsL/s12 and 23S genes for the presence of antibiotic–resistance inducing mutations; and (c) if *M. tuberculosis* is detected in step (b), performing a second sequencing procedure, with or without prior amplification, on the sample to evaluate the additional genes for the presence of antibiotic–resistance inducing mutations.



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